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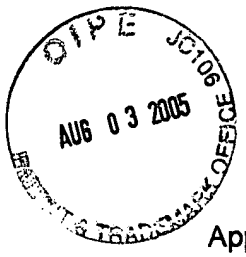

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Mark D. Scott, et al.	Examiner:	R. Hayes
Serial No.	09/323,765	Group Art Unit:	1647
Filed:	June 1, 1999	Docket No.	259.006US1
Title:	ANTIGENIC MODULATION OF CELLS		

MAIL STOP APPEAL BRIEF-PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

The following documents are hereby submitted:

- ☒ Appeal Brief to the Board of Patent Appeals and Interferences of the United States Patent and Trademark Office (29 pages) (three copies)
- ☒ Authorization to withdraw $250.00 to cover Appeal Brief Fee of a small entity
- ☒ Transmittal Sheet
- ☒ Return postcard

Please consider this a PETITION FOR EXTENSION OF TIME for sufficient number of months to enter these papers if an additional extension of time is deemed necessary by the Office. Authorization is hereby given to charge Deposit Account Number 50-1391 if such additional extension is necessary.

MARK A. LITMAN & ASSOCIATES, P.A.
York Business Center, Suite 205, 3209 W. 76th St.
Edina, MN 55435 (952-832-9090)

By: _____
Atty: Mark A. Litman
Reg. No. 26,390

CERTIFICATE UNDER 37 C.F.R. 1.8: The undersigned hereby certifies that this Transmittal Letter and the paper, as described herein, are being deposited in the United States Postal Service, as first class mail, with sufficient postage, in an envelope addressed to: Mail Stop Appeal Brief - Patents, Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450 on 1 August, 2005.

Mark A. Litman
Name

_____
Signature

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE US PATENT OFFICE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant:	Mark D. Scott et al.	Examiner: R. Hayes
Serial No.:	09/323,765	Group Art Unit: 1647
Filed:	June 1, 1999	Docket: 259.006US1
Title:	ANTIGENIC MODULATION OF CELLS	

MAIL STOP: APPEAL BRIEF - PATENTS
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Commissioner for Patents
Alexandria, VA22313-1450

Sir:

Applicants present this BRIEF ON APPEAL in triplicate to the US PATENT OFFICE BOARD OF PATENT APPEALS AND INTERFERENCES and **request a personal appearance before the Board. The fee for payment of the personal appearance will be paid upon receipt of the Examiner's Answer.**

The U.S. Patent and Trademark Office is hereby authorized to debit any costs and fees associated with this Petition to Deposit Account No. 50-1391.

CERTIFICATE UNDER 37 C.F.R. 1.8: The undersigned hereby certifies that this Transmittal Letter and the paper, as described herein, are being deposited in the United States Postal Service, as first class mail, with sufficient postage, in an envelope addressed to: MAIL STOP: APPEAL BRIEF - PATENTS, P.O. BOX 1450, Commissioner for Patents, Alexandria, VA 22313-1450 1 August, 2005.

Mark A. Litman
Name

Signature

TABLE OF CONTENTS

REAL PARTY IN INTEREST

The real party in interest in this Appeal is the licensee of the full right, title and interest in this Application, Canadian Blood Services, 1800 Alta Vista, Ottawa, Ontario CANADA K1G 4J5.

RELATED APPEALS AND INTERFERENCES

The Appellant(s), the legal representative prosecuting this application and Appeal, and the assignee are not aware of any Appeals or Interferences that will directly affect or have a bearing on the Board's of Patent Appeals and Interferences decision in this pending Appeal.

STATUS OF CLAIMS

Claims 1-26, 28 and 31, all of the remaining claims in the application have been finally rejected under various grounds.

STATUS OF AMENDMENTS

An Amendment was filed after the Final Rejection amending only claim 28 to remove a rejection under 35 USC112, second paragraph. As the Amendment does specifically what the Examiner has requested and no more, it is believed that the Amendment has been entered.

SUMMARY OF CLAIMED SUBJECT MATTER

Acute tissue rejection causes damage to tissue when antibody binding and complement fixation underlie the destruction of donor tissue. (Page 1, lines 22-29). Attempts to reduce the impact or occurrence of tissue rejection has focused on selection of compatible tissue (e.g., blood typing), chemical intervention to reduce rejection, and direct chemical blocking on the tissue (Page 1, line 26 through page 3, line 24). The use of adducts of materials with biactivated tresylPEG (polyethylene glycol) on a targeted materials has been specifically shown in the prior art (Page 4, lines 22-26). Improved methods of reducing or avoiding rejection are always desirable.

The present invention describes a method by which cells may be converted to a non-immunogenic status by covalent attachment of a hydrophilic, biocompatible, non-immunogenic providing compound or polymer, with the cell displaying increased viability as compared to cells having even the same hydrophilic group attached by other chemical associations and reactions (Page 5, lines 2-27; page 6, lines 3-12; and pages 27-32).

GROUPING OF CLAIMS

Solely for the purposes of expediting this Appeal and complying with the requirements of 37 C.F.R. 1.192(c)(7), the following grouping of claims is presented. This grouping is not intended to constitute any admission on the record that claims within groups may or may not be independently asserted in subsequent litigation or that for any judicial determination other than this Appeal, the claims may or may not stand by themselves against any challenge to their validity or enforceability.

The claims will be respectively grouped under the various rejections

1) **Claims 2-7, 18-21, 23-25, 28 and 31 have been rejected under 35 U.S.C. 102(e) as anticipated by Desai et al. (U.S. Patent No. 5,578,442).**

Claims 2-7 and 24 shall stand or fall with the patentability of claim 2.

Claims 18, 28 and 31 shall stand or fall with the patentability of claim 18, this claim specifically reciting a linking group not specifically recited in earlier claims.

Claims 19-23 and 25 shall stand or fall together with the patentability of claim 19, based upon the recitation of the attachment of the covalent bond directly to the antigenic determinants.

2) **Claims 1, 4, 8, 10-16, 24 and 26 have been rejected under 35 U.S.C. 102(b) as anticipated by Francis et al. (WO 95/06058).**

Claims 1, 8, 15, 24 and 26 shall stand or fall with the patentability of claim 1.

Claim 4 shall stand or fall by itself, this claim reciting the absence of toxic bye-products, a limitation not present in other claims.

Claim 10 and 16 shall stand or fall with the patentability of claim 10, reciting a specific blocking group.

Claim 11 shall stand or fall by itself, reciting a specific blocking group.

Claim 12 shall stand or fall by itself, reciting a specific blocking group.

Claim 13 shall stand or fall by itself, reciting a specific position of attachment with regard to the cell.

Claim 14 shall stand or fall by itself, reciting a specific linking group.

3) Claims 1-26, 28 and 31 have been rejected under 35 U.S.C. 103(a) as obvious over the combination of Desai et al. in view of Francis et al.

Claims 1, 3, 8, 15, 17, 24, 25 and 26 shall stand or fall with the patentability of claim 1.

Claims 2 and 9 shall stand or fall with the patentability of claim 2, reciting a specific degree and test for stability.

Claim 4 shall stand or fall by itself, this claim reciting the absence of toxic bye-products, a limitation not present in other claims.

Claims 5, 6 and 7 shall stand or fall with the patentability of claim 5, this claim differing from claim 1 in reciting a nuclear cell.

Claim 10 and 16 shall stand or fall with the patentability of claim 10, reciting a specific blocking group.

Claim 11 shall stand or fall by itself, reciting a specific blocking group.

Claim 12 shall stand or fall by itself, reciting a specific blocking group.

Claim 13 and 19-23 shall stand or fall with the patentability of claim 13, reciting a specific position of attachment with regard to the cell.

Claim 14 shall stand or fall by itself, reciting a specific linking group.

Claim 18 shall stand or fall by itself, reciting a specific position of attachment to the cell surface.

4) Claim 28 has been rejected under 35 USC 112, second paragraph.

Claim 28 shall stand or fall by itself under this issue.

ARGUMENT

Claims 2-7, 18-21, 23-25, 28 and 31 have been rejected under 35 U.S.C. 102(e) as anticipated by Desai et al. (U.S. Patent No. 5,578,442).

The Claims (represented by Claim 2, which is also highlighted for emphasis, below) specifically recite that the composition includes:

2. A non-aggregating, non-immunogenic nuclear cellular composition in which at least 25% by number of nuclear cells in said composition remain viable for 96 hours consisting of:

a) a mammalian nuclear cell having a cell surface and antigenic determinants on said surface; and

b) sufficient amount of hydrophilic, biocompatible, non-immunogenicity providing compound or polymer **covalently attached to said surface** so that recognition of said antigenic determinants on said surface is blocked by said covalently bonded hydrophilic, biocompatible, non-immunogenicity providing compound or polymer. (Emphasis added).

These recitations are absolute and clear limitations on every claim remaining in the application. That specific limitation must be taught by Desai et al. for this rejection to be tenable. Desai et al do not teach covalent bonding of a non-immunogenic compound on a virus particle surface.

There is no specific disclosure that has been cited in the Office Action which asserts that the linker molecule is covalently bonded to the virus particle. The disclosure of Desai et al. clearly shows both the limitation of "covalent bonding" and bonding to a "virus particle" limitation to be absent from the invention contemplated by Desai et al.

Absence of Covalent Bonding

On column 5, line 38 through column 6, line 60, Desai et al. clearly describe a method and composition which "associates" a polycationic species with the negatively charged cell surface (e.g., column 5, lines 55-60). The language and disclosure in this section clearly denotes and describes an ionic association of the polycationic composition which renders the cells non-immunogenic, Desai et al. repeatedly use language and

description consistent with only ionic associations and inconsistent with covalent bonding. Even the reaction mechanisms for removal of the polycation binding to the cells and tissue is clearly incapable of relating to covalent bonding. Note specifically column 5, lines 55-67. The anions used to remove the polycationic materials from the cell surfaces must have high ionic strength. To remove a material from the cell surface that had been covalently bonded, specific types of chemical activity would have to be described.

The same section also refers to the necessary concentration of anionic species to reverse polycation binding to cells or tissue (column 5, lines 61-67). This language is specifically consistent with the existence of ionic binding and is inconsistent with covalent bonding. The fact that there is never any disclosure of specific reactive groups and reactions between the linker molecule and the cell surface is a further indication of the absence of any teaching or disclosure of covalent bonding to the cell surface by the linker molecule. In the absence of any indication of the necessary groups and reaction conditions for covalent bonding, and the consistent reference to ionic associations and ionic methods of release, it is absolutely clear that Desai et al. do not teach covalent bonding of the linker molecule to the cell surface.

Desai et al. cannot sustain a rejection under 35 U.S.C. 102(e) against the claims. The reference does not teach covalent bonding of the linker molecule to the virus particle surface or even to a cell surface. Although the Office Action repeats its assertion of the inherent formation of covalent bonds with the surfaces of cells or tissues, these assertion do not survive any serious scientific evaluation of the underlying technology.

The evidence to the contrary is that if the listed acids were capable of inherently forming covalent bonds with cells and tissues (in the absence of enzymes or catalysts for that specific reaction), life as we know it would cease on the Earth. If these and the other available alpha-amino acids could covalently bond to cells and tissues without enzymatic activity (which is not present in the *in vitro* environment of Desai), the cells and tissues within the body would bond together. This would mean that blood cells would bond to vascular walls (e.g., cause clots and strokes), would crosslink tissue (e.g., the lungs), and

cause other undesirable activities within the human body. These acids are present in foods, supplements and by-products of digestion and would covalently bond to the surface of the stomach, intestines, and other organs.

The Examiner has referred to portions of the Desai et al. specification where "free radical polymerization" is referred to, and these discussions have been asserted to reflect covalent bonding **to the cell**. The referred to section referred to free radical polymerization of components in the composition to each other, and there is no free radical polymerization to a cell, which would kill the cell. This would clearly fail to effect the successful recitation in claim 2 of the level of viability of the cell. This inability of strongly reactive materials to allow viability to continue in cells is supported by the showing on pages 27-32 of the specification, wherein the milder covalent bonding effected by the method of the invention enhanced cell survivability over the more intense bonding of Francis. Desai does not show covalent bonding **to the cell**, and if the language of the disclosure is misinterpreted to reflect free radical polymerization to the cell, that cell, like the cells of Francis (as shown on pages 27-32 of the specification) would not have a high degree of viability as recited in claim 2. Note the cited sections of the specification that the examiner refers to:

> "Optionally, **the polycationic species** employed in the practice of the present invention **can be further modified with one or more functional groups capable of undergoing free radical polymerization**. Suitable functional groups for this purpose include unsaturated species capable of free radical polymerization, such as, for example, acrylate groups, vinyl groups, methacrylate groups, and the like. When cells or tissues are treated with such modified polycationic species, the graft copolymer can be further subjected to free radical polymerization conditions, thereby stabilizing the association of graft copolymer with the cell surface. In addition, the further crosslinking of the graft copolymer forms a highly stabilized, immunoprotective coating of water-soluble polymer about the treated cell or tissue.

The stabilization referred to in this paragraph is not free radical polymerization to the surface, but rather increasing the molecular weight of the species. The paragraph clearly states that the graft copolymer is crosslinked, not that there is any reaction to the cell surface by free radical polymerization. Any attempt to interpret the statement in the manner inherently asserted by the rejection is to extend the teachings of the reference to technology neither taught, implied or inherent. There simply is no showing of covalent bonding to the surface of the cell. The constant and repeated removability of the "polycationic species" clearly establishes that there is no covalent bonding. The rejection is clearly in error and must be withdrawn.

In summary, with regard to all claims (which recite covalent bonding), there appears to be clear evidence that the listed polyamino acids do not spontaneously, within the environment presented by Desai, form covalent bonds with cells and tissues.

Claims 2-7 and 24 shall stand or fall with the patentability of claim 2. As noted above, all of the claims fail to even show covalent bonding. There has been no showing either of the survivability recited in claim 2. That rate cannot be assumed, especially in view of the comparative showing in the specification (e.g., pages 27-32) evidencing the uniqueness and unobviousness of those results.

Claims 18, 28 and 31 shall stand or fall with the patentability of claim 18, this claim specifically reciting a linking group not specifically recited in earlier claims. Desai et al. do not show a linking unit derived from a cyanuric chloride reaction product. This rejection is therefore further not anticipated by the Desai et al. teachings.

Claims 19-23 and 25 shall stand or fall together with the patentability of claim 19, based upon the recitation of the attachment of the covalent bond directly to the antigenic determinants. Even given an erroneous conclusion that Desai et al. teach covalent bonding to the surface of the cell (which it **DOES NOT**), there is no teaching that Desai et al. show bonding directly to the determinants. These claims are therefore additionally novel over the reference.

2. Claims 1, 4-5, 7-8, 10-16, 4 and 26 have been rejected under 35 U.S.C. 102(b) as anticipated by Francis et al. (WO 95/06058).

Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Desai et al. in view of Francis et al. (WO 95/06058). This rejection is also respectfully traversed. Although Francis does apparently incidentally show the covalent bonding of a moiety (including PEG, the erythrocytes of Example 7) to the surface of a red blood cell, the bonding is done for the purpose of differentiating cells (so that they may be separated by ionic or electrostatic or other physical process), and only mammalian cells, as opposed to virus particles are bonded with the differentiating compound.

This rejection therefore fails because the combination of references fails to provide any motivation for the covalent bonding of compounds to the surface of nuclear or anuclear cells **with the provision of an anti-immunogenic effect**. Even with the teaching of Francis that compounds can be covalently bonded to mammalian cells (including red blood cells in Example 7), the specification specifically replicated the process of Francis et al., compared those cells to cells produced according to the present invention, and clearly established that the process of Francis et al. (**which was not intended to provide an anti-immunogenic** effect) did not produce an anti-immunogenic effect. In this regard, please note Example IX, and especially the conclusion on Page 30, lines 15-29, especially where it is stated in lines 25-29 that:

> "**As shown, CmPEG readily modifies the RBC** [red blood cell] **surface and confers immunocamoflage. In contrast, the TmPEG method as taught by Francis fails to significantly modify RBC and does not yield any protection from immune recognition (Figure 1).** (*emphasis added*)

All of the claims, in various language, effectively recited "A non-aggregating, non-immunogenic ... cellular composition..." Francis et al. has been shown to provide a cell composition that is **NOT** non-immunogenic. Francis et al. has therefore been shown to fail to anticipate the present invention. As direct, detailed, and uncontraverted evidence has been provided that shows that Francis et al. fails to anticipate this critical language of the claims, the rejection is clearly in error and must be withdrawn.

There is no motivation to perform a non-immunizing activity on nuclear or anuclear cells and clear evidence that the process of Francis et al. cannot provide that activity. Without such ability or motivation, there is no underlying basis for the assertion of obviousness.

The point of this argument is that Francis, even if covalent attachment is shown, destroys or greatly reduces the viability of the cells, contrary to the teachings of the present invention. This result is consistent with the purpose of Francis, which does not seek to create viable cells with immunogenic properties, but merely intends to provide a method of separating cells by bonding weighted polymers to them to make them more easily separable. This gross material addition to cells to make them more distinguishable is not material or functionally related to the purpose of creating **viable immunogenic cells**. Having no intent at cell survival, Francis uses techniques that reduce cell viability to a degree (shown by comparison in the specification examples on page 27-32) that are outside the limits of all claims. The term viable, alone, is sufficient to show lack of anticipation between the teachings of Francis and the claimed invention.

Claims 1, 8, 15, 24 and 26 shall stand or fall with the patentability of claim 1. The novelty of these claims has been firmly established above.

Claim 4 shall stand or fall by itself, this claim reciting the absence of toxic bye-products, a limitation not present in other claims. The novelty of this claim has been established above. Additionally, the examples and accompanying descriptions on pages 27-32 show that Francis produces waste bye-products that damage the cells. The reference therefore clearly fails to anticipate the invention as claimed.

Claims 5, and 7 shall stand or fall with the patentability of claim 5, this claim differing from claim 1 in reciting a nuclear cell. The arguments for establishing the novelty of these claims is otherwise identical to those presented with respect to claim 1 above.

Claim 10 and 16 shall stand or fall with the patentability of claim 10, reciting a specific blocking group. Francis does not show a linking unit derived from a cyanuric

chloride reaction product. This rejection is therefore further not anticipated by the Francis teachings.

Claim 11 shall stand or fall by itself, reciting a specific blocking group. This specific blocking group has not been asserted to be shown by Francis and is therefore novel.

Claim 12 shall stand or fall by itself, reciting a specific blocking group. This specific blocking group has not been asserted to be shown by Francis and is therefore novel.

Claim 13 shall stand or fall by itself, reciting a specific position of attachment with regard to the cell. Francis has not been found nor asserted to show covalent bonding directly to the determinants on the cell surface. The rejection must additionally fail for that reason.

Claim 14 shall stand or fall by itself, reciting a specific linking group. Francis does not show a linking unit derived from a cyanuric chloride reaction product. This rejection is therefore further not anticipated by the Francis teachings.

3. Claims 1-16, 28 and 31 have been rejected under 35 U.S.C. 103(a) as obvious over the combination of Desai et al. in view of Francis et al.

This rejection is clearly in error, at least for the following reason. Desai et al. has been clearly established as failing to show covalent bonding of PEG to cell surfaces. The Francis et al. reference, showing a specific format for providing covalent bonding of PEG to a cell surface for a purpose other than providing non-immunogenicity, **fails to provide non-immunogenicity by his sole described method.** That fact has been established by direct comparison of the Francis et al. method and a method according to the practice of the invention. Therefore, even if the methods of Desai et al. and Francis et al. were combined, they would not be expected to provide the properties recited in the claims. There is no predictability, motivation or assurance that any combined product or process

of Desai in view of Francis could produce a viable cell without consideration of the teachings of the present Application.

The rejection is therefore clearly in error. Not only was the covalent bonding shown by Francis et al. not intended to provide non-immunogenicity, the actual effect of the process failed to provide non-immunogenicity. The combination therefore fails to show that the invention as a whole, including the resulting properties, are obvious. The rejection therefore fails to meet minimum statutory requirements to establish a *prima facie* case of obviousness. The rejection is in error and must be withdrawn.

Additionally, the purpose for the covalent bonding of compounds to mammalian cell shown by Francis is for a fundamentally different purpose than that shown by Desai. Desai requires the preparation of reversible, non-adhesive cells, while Francis is teaching the preparation of adducts of a polymer and a targeted material, which are shown to be differentiable (e.g., in solvents so that they separate). Although Desai does teach that his reversible attachment (ionic attachment) of can reduce aggregation, Francis appears to indicate that aggregation still occurs with both his inventive composition and with control compositions (Examples 3 and 4). There is no nexus between the two references that would allow their combination, even if they are proposed to be combined. In addition, with this fundamental difference in the objective of the two references, they would not be combined to motivate one skilled in the art to modify the surface of a viral particle, a process not taught in either reference.

Claims 1, 3, 8, 15, 17, 24, 25 and 26 shall stand or fall with the patentability of claim 1. The arguments directly above reflect the basic position on this set of claims. Those arguments are also applicable to all other claims in the Application, even where additional novel and unobvious features are shown.

Claims 2 and 9 shall stand or fall with the patentability of claim 2, reciting a specific degree and test for stability. Extensive comparisons were provided in the specification on pages 27-32 which have not been given their technical respect. That evidence is compelling on the fact that the recited covalent bonding and the specific degree of viability (which is recited in these claims) has not been shown to be taught,

obvious, enabled or otherwise available from the teachings of these references. These properties are clearly not inherent as the reprise of the Francis process shows a significantly lower viability rate. There is no legal basis for the continued assertion of unobviousness except by ignoring the data and examples or by applying unwarranted pejorative attacks on the examples.

Claim 4 shall stand or fall by itself, this claim reciting the absence of toxic bye-products, a limitation not present in other claims. The novelty of this claim has been established above. Additionally, the examples and accompanying descriptions on pages 27-32 show that Francis produces waste bye-products that damage the cells. The reference therefore clearly fails to anticipate the invention as claimed.

Claims 5, 6 and 7 shall stand or fall with the patentability of claim 5, this claim differing from claim 1 in reciting a nuclear cell. Patentability arguments are otherwise the same as those provided above for Claim 1.

Claim 10 and 16 shall stand or fall with the patentability of claim 10, reciting a specific blocking group. Neither Francis nor Desai et al. show a linking unit derived from a cyanuric chloride reaction product. This rejection is therefore further not anticipated by the Francis teachings.

Claim 11 shall stand or fall by itself, reciting a specific blocking group. Neither Desai et al. nor Francis show this specific blocking group. It has not been asserted to be shown by Francis or Desai and is therefore novel and unobvious.

Claim 12 shall stand or fall by itself, reciting a specific blocking group. Neither Desai et al. nor Francis show this specific blocking group. It has not been asserted to be shown by Francis or Desai and is therefore novel and unobvious.

Claim 13 and 19-23 shall stand or fall with the patentability of claim 13, reciting a specific position of attachment with regard to the cell. Neither Desai et al. nor Francis has been asserted to specifically show attachment at the determinant sites. In the absence of such a teaching in either reference, the rejection must fail.

Claim 14 shall stand or fall by itself, reciting a specific linking group. Neither Desai et al. or Francis shows a linking unit derived from a cyanuric chloride reaction product. This rejection is therefore further not anticipated by the Francis teachings.

Claim 18 shall stand or fall by itself, reciting a specific position of attachment to the cell surface. Neither Desai et al. or Francis shows a linking unit derived from a cyanuric chloride reaction product. This rejection is therefore further not anticipated by the Francis teachings.

This rejection is in error and must be withdrawn.

CONCLUSION

All rejections of record have been shown in detail to be in error. The rejection should be reversed and all claims should be indicated as allowable.

Applicants believe the claims are in condition for allowance and request reconsideration of the application and allowance of the claims. The Examiner is invited to telephone the below-signed attorney at 952-832-9090 to discuss any questions that may remain with respect to the present application.

Respectfully submitted,
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Date 1 AUGUST, 2005 By _____
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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to Box: APPEAL BRIEF - PATENTS, P.O. BOX 1450; Commissioner for Patents, Alexandria, VA 22313-1450 on 1 AUGUST 2005.

Name: Mark A. Litman Signature

APPENDIX - THE CLAIMS ON APPEAL

1. (PREVIOUSLY PRESENTED) A non-aggregating, non-immunogenic anuclear cellular composition consisting of:

a) a mammalian anuclear cell having a cell surface and antigenic determinants on said surface;

b) a sufficient amount of hydrophilic, biocompatible, non-immunogenicity providing compound or polymer covalently attached to said surface so that recognition of said antigenic determinants on said surface is blocked by said covalently bonded hydrophilic, biocompatible, non-immunogenicity providing compound or polymer.

2. (PREVIOUSLY PRESENTED) A non-aggregating, non-immunogenic nuclear cellular composition in which at least 25% by number of nuclear cells in said composition remain viable for 96 hours consisting of:

a) a mammalian nuclear cell having a cell surface and antigenic determinants on said surface;

b) a sufficient amount of hydrophilic, biocompatible, non-immunogenicity providing compound or polymer covalently attached to said surface so that recognition of said antigenic determinants on said surface is blocked by said covalently

bonded hydrophilic, biocompatible, non-immunogenicity providing compound or polymer.

3. (PREVIOUSLY PRESENTED) A non-aggregating, non-immunogenic nuclear cellular composition having insufficient amounts of toxic materials within said composition to be toxic to nuclear cells within said composition consisting essentially of:

a) a mammalian nuclear cell having a cell surface and antigenic determinants on said surface;

b) a sufficient amount of hydrophilic, biocompatible, non-immunogenicity providing compound or polymer covalently attached to said surface so that recognition of said antigenic determinants on said surface is blocked by said covalently bonded hydrophilic, biocompatible, non-immunogenicity providing compound or polymer.

4. (PREVIOUSLY PRESENTED) A non-aggregating, non-immunogenic anuclear or nuclear cellular composition consisting of:

c) a mammalian anuclear or nuclear cell having a cell surface and antigenic determinants on said surface;

d) a sufficient amount of hydrophilic, biocompatible, non-immunogenicity providing compound or polymer covalently attached to said surface so that recognition of said antigenic determinants on said anuclear or nuclear cell surface is blocked by said covalently

bonded hydrophilic, biocompatible, non-immunogenicity providing compound or polymer, said composition being free of any by-products from the covalent attachment of said hydrophilic, biocompatible, non-immunogenicity providing compound or polymer to said anuclear or nuclear cell surface.

5. (PREVIOUSLY PRESENTED) A non-aggregating, non-immunogenic cellular composition having insufficient amounts of toxic materials within said composition to be toxic to cells within said composition consisting essentially of:

e) a mammalian nuclear cell having a cell surface and antigenic determinants on said surface;

f) a sufficient amount of hydrophilic, biocompatible, non-immunogenicity providing compound or polymer covalently attached to said surface so that recognition of said antigenic determinants on said surface is blocked by said covalently bonded hydrophilic, biocompatible, non-immunogenicity providing compound or polymer.

6. (PREVIOUSLY PRESENTED) A viable, non-aggregating, non-immunogenic cellular composition consisting essentially of:

g) a mammalian nuclear cell having a cell surface and antigenic determinants on said surface;

h) a sufficient amount of hydrophilic, biocompatible, non-immunogenicity providing compound or polymer covalently attached to said surface so that recognition of said antigenic determinants on said surface is blocked by said covalently bonded hydrophilic, biocompatible, non-immunogenicity providing compound or polymer.

7. (PREVIOUSLY PRESENTED) A non-immunogenic cellular composition consisting essentially of:

i) a mammalian nuclear cell having a cell surface and antigenic determinants on said surface;

a sufficient amount of hydrophilic, biocompatible, non-immunogenicity providing compound or polymer covalently attached to said surface so that recognition of said antigenic determinants on said surface is blocked by said covalently bonded hydrophilic, biocompatible, non-immunogenicity providing compound or polymer.

8. (ORIGINAL) The cellular composition of claim 1 wherein said hydrophilic, biocompatible, non-immunogenicity providing compound or polymer is a polyalkylene glycol.

9. (ORIGINAL) The cellular composition of claim 1 wherein said hydrophilic, biocompatible, non-immunogenicity providing compound or polymer is a methoxypolyalkylene glycol.

10. (ORIGINAL) The cellular composition of claim 1 wherein said hydrophilic, biocompatible, non-immunogenicity providing compound or polymer is a dextran.

11. (ORIGINAL) The cellular composition of claim 1 wherein said hydrophilic, biocompatible, non-immunogenicity providing compound or polymer is Ficoll.

12. (ORIGINAL) The cellular composition of claim 1 wherein said hydrophilic, biocompatible, non-immunogenicity providing compound or polymer is arabinogalactan.

13. (ORIGINAL) The cellular composition of claim 1 wherein said linking moieties are covalently bonded to said antigenic determinants on said cell surface.

14. (PREVIOUSLY PRESENTED) The cellular composition of claim 1 wherein said cell is an anuclear cell and the covalently bonded hydrophilic, biocompatible, non-immunogenicity providing compound or polymer is covalently bonded to the nuclear cell through a unit derived from reaction of a cyanuric chloride linking group on the covalently bonded hydrophilic, biocompatible, non-immunogenicity providing compound or polymer to the cell surface.

15. (PREVIOUSLY PRESENTED) The cellular composition of claim 1 wherein said anuclear cell is a red blood cell.

16. (ORIGINAL) The cellular composition of claim 10 wherein the antigenic determinants comprise a blood group antigenic determinants.

17. (PREVIOUSLY PRESENTED) The cellular composition of claim 1 wherein said anuclear cell is a platelet.

18. (PREVIOUSLY PRESENTED) The cellular composition of claim 2 wherein said cell is a lymphocyte and the covalently bonded hydrophilic, biocompatible, non-immunogenicity providing compound or polymer is covalently bonded to the nuclear cell through a unit derived from reaction of a cyanuric chloride linking group on the covalently bonded hydrophilic, biocompatible, non-immunogenicity providing compound or polymer to the cell surface.

19. (PREVIOUSLY PRESENTED) The cellular composition of claim 2 wherein linking moieties covalently attach the hydrophilic, biocompatible, non-immunogenicity providing compound or polymer to said surface, said linking moieties are covalently attached to said antigenic determinants on said cell surface and said nucleated cell is a vascular endothelial cell.

20. (PREVIOUSLY PRESENTED) The cellular composition of claim 2 wherein linking moieties covalently attach the hydrophilic, biocompatible, non-immunogenicity providing compound or polymer to said surface, said linking moieties are covalently attached to said antigenic determinants on said cell surface and said nucleated cell is a hepatic cell.

21. (PREVIOUSLY PRESENTED) The cellular composition of claim 2 wherein linking moieties covalently attach the hydrophilic, biocompatible, non-immunogenicity providing compound or polymer to said surface, said linking moieties are covalently attached to said antigenic determinants on said cell surface and said nucleated cell is a neuronal cell.

22. (PREVIOUSLY PRESENTED) The cellular composition of claim 2 wherein linking moieties covalently attach the hydrophilic, biocompatible, non-immunogenicity providing compound or polymer to said surface, said linking moieties are covalently attached to said antigenic determinants on said cell surface and said nucleated cell is a pancreatic cell.

23. (PREVIOUSLY PRESENTED)The cellular composition of claim 2 wherein linking moieties covalently attach the hydrophilic, biocompatible, non-immunogenicity providing compound or polymer to said surface, said linking moieties are covalently

attached to said antigenic determinants on said cell surface and said nucleated cell is an epithelial cell.

24. (PREVIOUSLY PRESENTED) A method of producing a non-immunogenic mammalian cell, said method comprising:

covalently attaching an amount of hydrophilic, biocompatible, non-immunogenicity providing compound or polymer to the cell surface, directly or by means of a linking moiety, so that said hydrophilic, biocompatible, nonimmunogenicity providing compound or polymer blocks recognition of antigenic determinants on the cell surface and yields a non-immunogenic cell.

25. (PREVIOUSLY PRESENTED)The method of claim 24 wherein linking moieties covalently attach the hydrophilic, biocompatible, non-immunogenicity providing compound or polymer to said surface, said linking moiety is covalently bonded to said antigenic determinants on said cell surface.

26. (ORIGINAL) The method of claim 24 wherein said cell is a red blood cell.

27. (CANCELLED)

28, (CURRENTLY AMENDED) The ~~method~~ cellular composition of claim 21 wherein said cell is part of a tissue or organ and the covalently bonded hydrophilic, biocompatible, non-immunogenicity providing compound or polymer is covalently bonded to the nuclear cell through a unit derived from reaction of a cyanuric chloride linking group on the covalently bonded hydrophilic, biocompatible, non-immunogenicity providing compound or polymer to the cell surface.

29. (CANCELLED)

30. (CANCELLED)

31. (PREVIOUSLY PRESENTED) The cellular composition of claim 1 wherein said cell is a platelet and the covalently bonded hydrophilic, biocompatible, non-immunogenicity providing compound or polymer is covalently bonded to the nuclear cell through a unit derived from reaction of a cyanuric chloride linking group on the covalently bonded hydrophilic, biocompatible, non-immunogenicity providing compound or polymer to the cell surface.

32.-52. (CANCELLED)